

include an API, ORB, or any other suitable software interface operating at ATP servers 14, fulfillment server 16, or both ATP servers 14 and fulfillment server 16. A network 20 coupling fulfillment server 16 to ATP servers 14 and may be a LAN, a MAN, a WAN, a global network such as the Internet, or any other appropriate network or collection of networks integral to or separate from network 18.

In one embodiment, LFM 22 each provide the same interface and functionality to fulfillment server 16, but may be designed to work with different ATP servers. Some of the ATP servers 14 may be older ATP systems, fulfillment systems, or ERP systems that may be used to compute component quotations, but are not designed to work with fulfillment server 16 in a more comprehensive distributed network environment such as that associated with system 10. Other ATP servers 14 may not even have the ability to provide ATP quotations; rather, they may simply store or support information required to compute the ATP quotations. In yet other cases, ATP servers 14 may be designed to work with fulfillment server 16, and as such may have an integrated LFM 22 to directly support the interface of fulfillment server 16. In still other cases, the functionality and/or data maintained by an ATP server 14 may be integrated into LFM 22, and the functionality and/or data maintained by a LFM 22 may be integrated into an ATP server 14. One example embodiment of LFM 22 is shown in FIGURE 6, which is described below.

LFM 22 may be responsible for computing properly formed component quotations or component promises, handling the resulting acceptances, and ensuring that the corresponding material or capacity is indeed reserved. In one embodiment, LFM 22 may have to do little but translate information communicated between the interface of fulfillment server 16 and associated ATP server 14. In other embodiments, such as where the ATP server 14 is not designed to function as part of a larger system, LFM 22 may need to perform substantial computation or other manipulation of information. LFM 22 may even need to perform some of the ATP functionality if it is interacting with a system that is not designed for ATP, or if interacting with a slower system where the activity of the system needs to be circumvented where possible. In yet another embodiment, a LFM 22 may operate using information stored in a local database without communicating with an associated ATP server 14, or a LFM 22 could be omitted between an ATP server 14

and fulfillment server 16. ATP servers 14 and/or LFM 22 may process the component ATP requests from fulfillment server 16 in a synchronous or an asynchronous manner. In a synchronous manner, ATP servers 14 and/or LFM 22 may provide component quotations to fulfillment server 16 in substantially real time, allowing for more rapid production of quotations for client 12.

In general, clients 12 submit ATP requests to fulfillment server 16, each request including one or more line-items pertaining to specific products that each may be ATP at one or more distributed ATP servers 14. The requests may, for example, come from an interactive or non-interactive order capture system at client 12.

Fulfillment server 16 brokers component ATP requests corresponding to these line-items to the appropriate ATP servers 14 and/or LFM 22 using network 20. If an LFM 22 receives a component ATP request, LFM 22 may in turn use an associated ATP server 14 or a local database to perform necessary computations and record any necessary reservations or changes. An ATP server 14 operating without an associated LFM 22 may itself perform necessary computations and record any necessary reservations or changes. ATP servers 14 and/or LFM 22 send resulting component quotations to fulfillment server 16, which manipulates the component quotations as appropriate and presents a unified overall quotation to the requesting client 12, commensurate with the original corresponding ATP request. While fulfillment server 16 is described as communicating with ATP servers 14 and/or LFM 22, fulfillment server 16 may communicate with any suitable supplier system and is not limited to communicating with ATP servers 14 and/or LFM 22 associated with one or more suppliers. Also, while fulfillment server 16 may be described further in this document as communicating with LFM 22, the same or similar communications may occur between fulfillment server 16 and ATP server 14, without the use of a LFM 22.

Client 12 may generate a quotation confirmation to totally or partially accept the quotation. In one embodiment, fulfillment server 16 manipulates the quotation confirmation as appropriate and sends component quotation confirmations to ATP servers 14 and/or LFM 22, each component quotation confirmation corresponding to a particular component ATP request. ATP servers 14 and/or LFM 22 generate component promises that consume supply and form binding commitments between the customer and suppliers as to the requested products. Fulfillment server 16

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presents a unified promise to client 12, commensurate with the corresponding ATP request, based on the component promises it receives from LFMs 22 and ATP servers 14. Client 12 may generate an acceptance to totally or partially accept the promise, then sending the acceptance to fulfillment server 16. Fulfillment server 16 sends component acceptances to ATP servers 14 and/or LFMs 22, and ATP servers 14 and/or LFMs 22 respond to fulfillment server 16 with component acceptance confirmations. Once fulfillment server 16 has sent a unified acceptance confirmation to client 12, based on component acceptance confirmations received from ATP servers 14 and/or LFMs 22, the order promising and fulfillment cycle is complete.

10 Operation of system 10 is described more fully below.

Fulfillment server 16 and LFMs 22, ATP servers 14, or other supplier systems may communicate using any suitable protocols and/or mechanisms. The formats and protocols for such communication may be defined at the time fulfillment server 16 is deployed and/or may be updated while fulfillment server 16 is operational. For example, fulfillment server 16 and ATP servers 14 and/or LFMs 22 may communicate using Simple Network Management Protocols (SNMP), Extensible Markup Languages (XML), direct secure or other Hypertext Transfer Protocol (HTTP) links, Electronic Data Interchange (EDI) Value Added Networks (VAN), and/or electronic mail. In one embodiment, multiple communication mechanisms may be used, such as when a supplier receives requests using a secure HTTP link and submits responses using electronic mail. In a particular embodiment, fulfillment server 16 uses electronic mailboxes, servlets, and/or JavaServer Pages (JSP) in a web server to communicate with ATP servers 14, LFMs 22, and/or clients 12 over HTTP connections.

25 Clients 12, fulfillment server 16, LFMs 22, and ATP servers 14 may each operate on one or more computers or other suitable processing devices at one or more locations. Each such computer may include an input device, which may be any suitable keypad, touch screen, microphone, or other device to accept information. An output device may convey suitable information, including digital or analog data, visual information, and audio information. The input device and output device may support any suitable fixed or removable storage media, such as magnetic computer diskettes, CD-ROMs, or other media to receive information from and provide

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